

Nitela constructor, a New Species from French Guiana
(Hymenoptera: Crabronidae)

Wojciech J. Pulawski

California Academy of Sciences, 55 Music Concourse Drive, Golden Gate Park,
San Francisco, California 94118, USA; Email: wpulawski@calacademy.org

The new species *Nitela constructor*, from French Guiana, is characterized by a microareolate frons, an evenly arcuate clypeal free margin, a pale yellow pronotal lobe, a conspicuously expanded episternal sulcus, a propodeal dorsum unsculptured between ridges, black femora, and largely black mid- and hindtibiae.

The objective of this paper is to provide a formal name for an article now in preparation on the nesting habits of this species by Mario X. Ruiz-González, Bruno Corbara, Céline Leroy, Alain Dejean, and Jérôme Orivel. The species has unusual nesting habits: rather than using preexisting cavities, the female builds the nest, mainly from fungal hyphae, on the lower surface of leaves of the undergrowth ant-shrub *Hirtella physophora* Mart. & Zucc. (Chrysobalanaceae).

Nitela constructor Pulawski, sp. nov.

NAME DERIVATION.— The Latin word *constructor* has the same meaning in English and refers to the method of female nest building. It is a noun in apposition to the generic name.

DIAGNOSIS.— Of the 61 species currently recognized in *Nitela*, 16 are known to occur in the Neotropical Region. Eleven of the 16 are members of the *amazonica* species group, formerly treated as the subgenus *Tenila*, and characterized by the presence of a continuous and lamelliform frontoclypeal carina and setose eyes (Bohart and Menke, 1976; van Zuijlen, 1994), clearly derived characters. *N. carinifrons* Menke has a frontoclypeal carina and also a transverse carina on the lower frons, but it lacks the setae on the eyes. The remaining four species: *N. costaricensis* Brauns, 1911 (Costa Rica), *N. darwini* Turner, 1916 (Galápagos Islands), *N. reticulata* Ducke, 1908 (Brazil), and *N. schmidtii* Brauns, 1911 (Costa Rica), lack these specializations, as does *Nitela constructor*. Three of them are known from the female sex only, whereas *reticulata* was described from both sexes.

No modern revision exists of these unspecialized species. I was able, however, to examine specimens of *darwini*, and have studied the original descriptions of the remaining three species. This analysis convinced me that *constructor* is indeed undescribed. It differs from *darwini* by a number of characters, the most important of which are the following: frons microareolate (rather than irregularly, longitudinally microridged); clypeal free margin forming single, regularly arcuate line (rather than having a somewhat prominent, laterally angulate lobe); transverse sulcus of pronotal collar unsculptured (rather than with longitudinal carinae); pronotal lobe pale yellow (rather than black); episternal sulcus conspicuously enlarged, almost reaching pronotal lobe (rather than fine, well separated from lobe); mesopleuron finely punctate posteroventrally, aciculate between punctures (rather than finely rugose); and propodeal dorsum unsculptured between ridges (rather than microsculptured). Also, the femora are black in *constructor* (also mid- and hindtibiae are

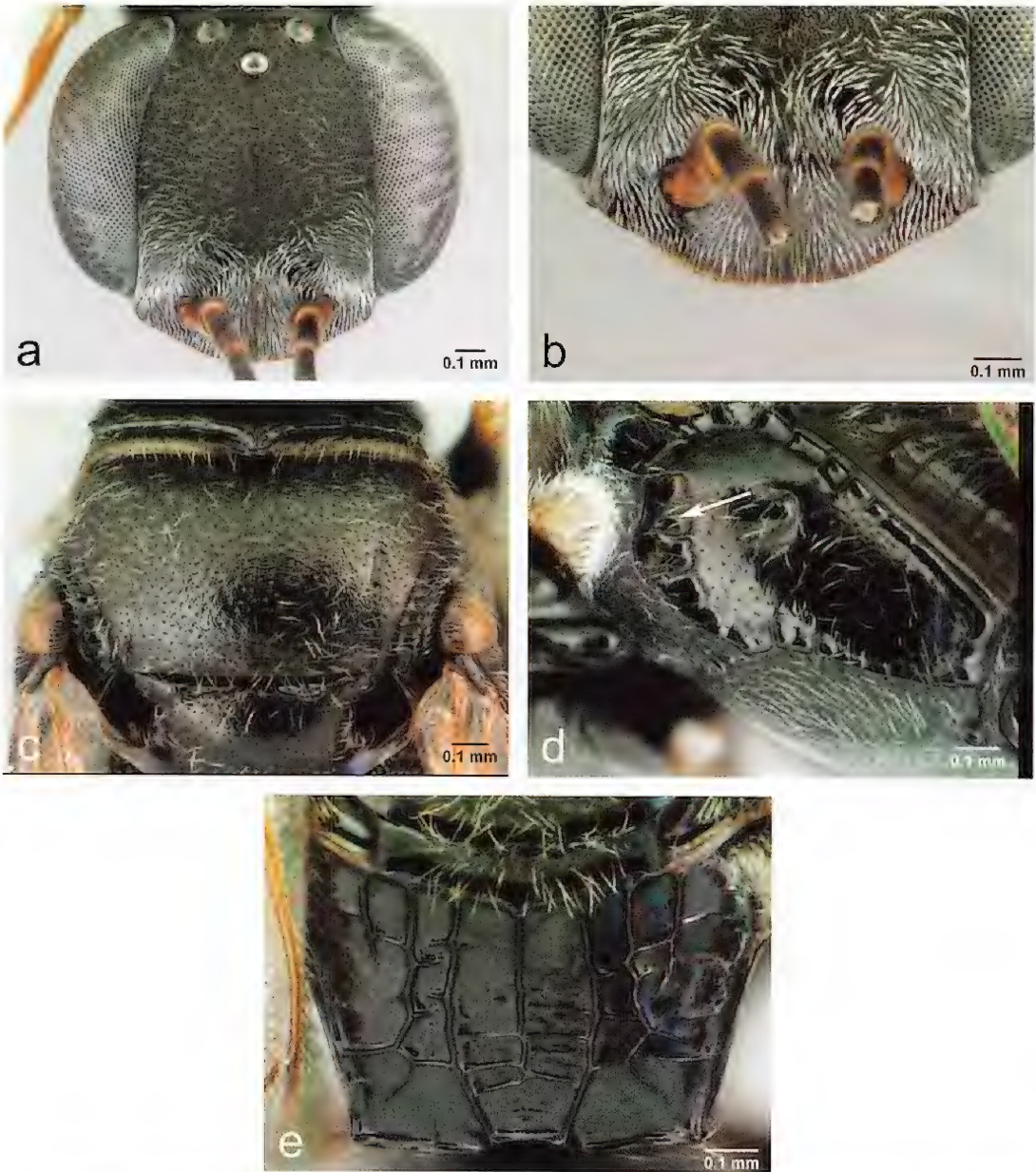


FIGURE 1. *Nitela constructor* Pulawski, sp. nov., holotype female: a – frons in frontal view; b – clypeus in frontal view; c – scutum in dorsal view; d – mesopleuron in lateral view (arrows shows episternal sulcus); e – propodeal dorsum in dorsal view.

largely black), whereas the legs are all red in *schmidtii* and largely red in *reticulata*, and the free margin of the clypeal lobe is evenly arcuate in *constructor*, but with a laterally angulate lobe in *schmidtii*. Finally, the scape is yellow ventrally and the scutellum is sparsely punctate, whereas the antenna is all black and the scutum is densely punctate in *costaricensis*.

DESCRIPTION (based on holotype only).— ♀: Frons dull, evenly, microscopically areolate, with shallow, minute, barely recognizable punctures. Clypeal free margin evenly arcuate, without

median lobe; clypeal surface with obtuse median carina which attains frontoclypeal suture, but does not quite attain free margin; medioventral clypeal area convex, punctate sparser than remaining surface. Interocular distance posterior to ocelli equal to $0.6 \times$ distance at the level of antennal sockets. Ocellocular distance equal to about 0.5 of hindocellar width, unsculptured except for several minute punctures. Gena as seen in profile markedly narrower than eye, and as seen from above almost absent, not sulcate nor swollen along posterior eye margin. Antennal socket simple. Dorsal length of flagellomere I $2.2 \times$ apical width. Minimum length of malar space about 0.5 of midocellar width. Pronotal collar with transverse sulcus (except mesally), sulcus unsculptured, without longitudinal ridges. Scutum and mesopleuron alutaceous, slightly shiny, with minute punctures that are several diameters apart (less near scutal foremargin), scutum conspicuously foveolate along flange, without longitudinal ridges next to hindmargin. Mesopleuron foveolate along posterior margin; upper part of episternal sulcus (above hypersternaulus) markedly enlarged, containing five longitudinal carinae, almost reaching pronotal lobe, at that point slightly wider than median ocellus width; hypersternaulus less prominent but also conspicuous. Scutellum with four ill-defined pits near anterior margin. Propodeum unsculptured and shiny between ridges; dorsum with several well-defined longitudinal carinae of which only two submedian ones (slightly curving outwards) reach hindmargin; area between submedian carinae with longitudinal carina that ends about midlength of propodeal dorsum, and with several transverse carinae; dorsum posterolaterally with a square area, traversed by a few carinae; margined at border with posterior surface; side ridged; posterior surface transversely ridged, with median carina in ventral half that bifurcates in dorsal half. Terga I and II with microscopic punctures that are several diameters apart and unsculptured interspaces, apical depressions impunctate mesally; punctures on tergum III denser than on I and II, interspaces also unsculptured; terga IV and V with interspaces alutaceous. Length 5.2 mm.

Interocellar area and mesoscutum with suberect setae that are about as long as half midocellar width.

Body black, with the following exceptions: mandible yellowish (black basally), scapal venter yellowish brown, pronotal lobe pale yellow, foretibia and tarsus yellowish brown, mid- and hindtibiae pale yellow basally, mid- and hindtarsi brown. Wings clear, stigma and veins brown.

♂.—Unknown.

CONDITION OF HOLOTYPE.—Flagellomeres II–X lost on both antennae; left mid- and hindlegs lost.

GEOGRAPHIC DISTRIBUTION.—French Guiana.

RECORDS.—HOLOTYPE: ♀, FRENCH GUIANA: Petit Saut at 5°02'51"S 52°57'11"W, 25 Oct 2008, Mario X. Ruiz-González (California Academy of Sciences).

ACKNOWLEDGMENTS

I sincerely thank Bruno Corbara, Arnold S. Menke, and Robert L. Zuparko for their critical comments on the manuscript. Erin Prado generated the illustrations using Auto-Montage software package by Syncroscopy.

LITERATURE CITED

- BOHART, R.M., AND A.S. MENKE. 1976. *Sphecid Wasps of the World. A Generic Revision*. University of California Press, Berkeley, Los Angeles, California, USA and London, UK. ix + 695 pp., 1 col. pl.
- VAN ZUIJLEN, J.W.A. 1994. The *amazonica* species group of the genus *Nitela* Latreille (Hymenoptera: Sphecidae: Crabroninae). *Zoologische Mededelingen (Leiden)* 68:249–269.